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10 Robert C. /Kramer  
US Military Academy  
David R. /Segal  
University of Maryland

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JOB SATISFACTION IN THE U.S. ARMY: 1943 and 1973\*

Robert C. Kramer

David R. Segal

U.S. Military Academy      University of Maryland

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This paper is concerned with two related questions: whether junior enlisted mens' perceptions of the nature of their service has changed with the end of conscription and the advent of the all-volunteer force; and the level of satisfaction of junior personnel in the all-volunteer force with the nature of their service relative to that of their conscription-era counterparts. The first of these issues is based upon Moskos' (1977) hypothesis that military service has been transformed from a calling, legitimized in terms of institutionalized values, to an occupation, legitimized in terms of the market place. If Moskos is correct, then the notion of job satisfaction is relevant to the study of modern military service, which is seen as increasingly similar to civilian employment, but is less relevant to the study of the conscription-era soldier, whose service was seen as something very different from civilian employment. However, it is notable that Stouffer and his colleagues (1949), in their research on the conscription-based Army of World War II, did regard satisfaction as an important attitude dimension, and research on noncombat troops in World War II has suggested that we perhaps have a romanticized notion of the nature of military service in that conflict (e.g., Rundell, 1978), based upon the media image of the combat infantryman.

The second issue assumes that Moskos is correct, at least in his analysis of the all-volunteer force, and that if the Army is to be sustained without a military draft, job satisfaction will be one of the dimensions explaining the Army's success (or failure) in the accession and retention of high quality personnel who have other employment options available to them in the civilian labor market.



We build upon analyses by Segal, Lynch, and Blair (1979), who, in comparing a sample of junior enlisted men surveyed in 1973 with a range of samples of 1943 soldiers on a number of job-related attitudes, reported that "The most interesting comparison group for our 1973 sample is the World War II enlisted men who had gone AWOL and were surveyed while in confinement....[This] is the only set of comparisons we have made with 1943 samples in which the modern soldier does not reveal consistently more negative attitudes than did his counterpart of three decades [earlier]." The lower-level of job related affect among rank-and-file soldiers in 1973 than in 1943 was noted by Janowitz and Moskos (1979) in their assessment of the all-volunteer force five years after its establishment. They concluded that "in the all-volunteer force discontent at all ranks of military personnel has increased and will continue to be an important issue in the coming years."

The comparisons presented by Segal, Lynch, and Blair (1979), while showing a consistent pattern, are subject to the unreliability of single-item indicators. A more rigorous test of the hypothesis that the soldier in the all-volunteer force has lower job satisfaction than his World War II counterpart would require the development of a more reliable multiple-item index of job satisfaction. Our ability (or lack thereof), to construct an index of job satisfaction that is appropriate for both 1943 and 1973 Army personnel is directly responsive to the first issue we have raised: whether personnel in the two periods define their service differently. If such an index can be constructed, then a comparison of mean levels at the two points in time is possible, and is



responsive to our second issue: the relative levels of satisfaction.

#### THE MEASUREMENT OF JOB SATISFACTION

Most contemporary measures of job satisfaction reflect Hoppock's (1935) conceptualization of a balancing or averaging of affect across a series of components of the job, the individual, and the environment. The literature on job satisfaction is replete with scales and indexes that measure various components of the job. No single measure has been shown to be psychometrically superior to the others, and no single measure has been adopted by convention to be the standard. For our own analysis of soldier attitudes, we start with the work of Stouffer et al (1949).

In their studies of American soldiers in World War II, Stouffer and his colleagues viewed job satisfaction as a composite of such factors as pride in one's unit, sense of importance of one's job, interest in one's job, feeling that Army training would lead to better civilian jobs, physical well-being, and general happiness. With the exception of these last two characteristics, the components in which they were interested are similar to the components measured in most contemporary indexes of job satisfaction. Interestingly, the nine-item Guttman scale that Stouffer and his colleagues developed to measure satisfaction with one's Army job excluded these two components. Of the nine individual items studied by Segal, Lynch, and Blair, five were included in Stouffer's job satisfaction scale. Since subsets of a set of items that constitute a Guttman scale should have similar scalar qualities to the entire set, we might expect these five items to constitute an index of job satisfaction

for both 1943 and 1973 data, if indeed soldiers in the two periods regard their service in the same way. Appendix I presents the items in Stouffer's scale. The coefficient of reproducibility for this scale, resulting from scalogram analysis of the items, was .92. Appendix II presents seven of the nine individual items analyzed by Segal, Lynch and Blair (1979) for 1943 and 1973. Items 2 and 7 were not part of Stouffer's scale. Two items analyzed by Segal et al. were not included in our analysis because they did not appear in all of the surveys that we analyzed.

#### DATA

Our data are drawn from three samples of enlisted men surveyed in 1943, and one sample of enlisted men surveyed in 1973, that were analyzed by Segal and his colleagues. The 1943 data consist of: a cross-sectional sample of 1,526 white enlisted men from eleven Army Service Forces, Army Ground Forces, and Army Air Forces installations throughout the Continental United States (Regular Sample); 603 white enlisted men from nine camps in the United States who had been absent without leave, had been returned to military control, and were surveyed while in military confinement facilities (A.W.O.L. Sample); 509 white enlisted men from four camps in the United States assigned to Air Corps, Ranger, and Airborne Infantry units (Elite Sample). The 1973 sample consists of 3,282 enlisted men located in 60 U.S. Army installations in the United States, Germany, and Korea.

The 1943 data were drawn from a racially segregated Army, and only white enlisted personnel were included in the surveys we are using. The 1973 sample, by contrast, represents a racially



integrated Army, and includes black respondents. Wilson and Butler (1979), however, have shown race to have no direct effect on job satisfaction in the modern Army. The 1973 data also represent three theatres, the United States, Germany, and Korea, while the 1943 data are all from the United States. Analysis of the 1973 data did not reveal consistent or significantly large theatre effects, and all three areas are retained in our analysis.

The rank structure of the enlisted grades in the U.S. Army changed significantly between 1943 and 1973. In order to hold rank effects constant, we restricted our analysis to the three lowest enlisted grades in 1943, and the five lowest grades in 1973. Roughly equal proportions of all enlisted men were in these grades at the two points in time.

#### ANALYSIS STRATEGY

Stouffer's (1949) initial construction of a job satisfaction scale was based upon Guttman's scalogram analysis technique. More recent research has shown scalogram analysis to be unreliable and difficult to interpret (e.g., Schooler, 1968). Our own research will utilize item analysis in our attempt to construct a job satisfaction index. The evaluation of indexes using various combinations of the attitude items with which we are working will be based upon three criteria: the reliability of the index as measured by Cronbach's alpha; the contributions of individual items to the resulting index, as measured by corrected item-to-total score correlations; the maximization of comparability of indexes across samples, in order to address the second of our concerns. In addition to the item

analyses, we shall present the results of scalogram analyses of the data, in order to maximize comparability with Stouffer's research.

## RESULTS

Item Analysis. Initially, all seven items for each sample were used to calculate Cronbach's alpha. Also, for each item, an item-to-total score correlation was computed, corrected for the contribution of that item to the total score. For each sample, the item with the lowest corrected correlation was eliminated. Alpha and new corrected item-to-total correlations were then recomputed for the remaining items. If the magnitude of alpha increased, the new index was considered a more reliable measure of job satisfaction. This procedure was repeated until the magnitude of alpha for each sample either did not change, or decreased, as a function of eliminating an additional item. The combination of items with the highest Cronbach's alpha was then considered the most reliable multiple item index for that sample, and was utilized in further analyses unless the criteria of corrected item-to-total correlations or comparability dictated an alternative decision.

As shown in Panel A of Table 1, the zero-order correlations between item 7 and the other items were, on the average, lower than the other intercorrelations. This was true of the corrected correlations as well. Panel B presents the alpha coefficients for all items, and with item 7 deleted. The deletion of item 7 increased alpha in the 1973 sample, and in the 1943 regular enlisted sample. It produced slight decreases in alpha in the 1943 A.W.O.L. and elite samples. However, in these latter two samples, the item-to-total



score correlations were increased by the deletion of item 7. These correlations are presented in Panel C. Further item deletions resulted in decreases in both alpha and in the item-to-total correlations. Thus, items 1-6 were combined to establish our index of job satisfaction. Note that the deleted item 7 was not included in Stouffer's original scale. Item 2, which also had not been included in Stouffer's measure, however, did emerge as a component of our index.

Scalogram Analysis: The six items included in our index were subjected to scalogram analysis both to extend Stouffer's analysis of the 1943 data, and to determine whether the 1973 data conformed to the structure observed in the 1943 data. In general, a coefficient of reproducibility of at least .9 is regarded as necessary, but not sufficient, for inferring unidimensionality. As noted above, Stouffer reported a reproducibility coefficient of .92 for his nine-item scale. In addition, since reproducibility is in part a function of the marginal distributions of the individual items, scalability is evaluated in terms of the difference between minimum marginal reproducibility (MMR) and the coefficient of reproducibility. By convention, a 20 percent improvement is regarded as indicative of a unidimensional scale. Panel D of Table 1 presents the scalogram analysis results.

Only the 1973 sample and the 1943 A.W.O.L. sample met or exceeded the .90 criterion for reproducibility although both the regular and elite 1943 samples were close to the criterion. Only the 1943 A.W.O.L. sample met the criterion of 20 percent improvement. In short, while the reproducibility coefficients all approach the figure

computed by Stouffer, more extensive scalogram analysis suggest that the items do not have the characteristic of cumulative scalability sought by scalogram analysis.

Index Construction and Temporal Comparison: The six items shown by item analysis to constitute the most reliable index of job satisfaction were aggregated by coding them all in the same direction, with the highest value assigned to the most negative response, summing scores across items for each individual, and dividing the sum by six, the total number of items. Where data were missing for an item, the respondent was assigned the mean value on that item. Since three of the items had five point response scales and three had three point scales, the range of the resulting scale was one to four, with four representing the negative extreme. The mean scores for each sample are presented in Panel E of Table 1.

Among the 1943 samples, a comparison of the mean measures is indicative of relative levels of job satisfaction at the same point in time. Not unexpectedly, the A.W.O.L. sample was the most negative, followed by the regular sample, with the elite sample being the most positive. All differences are significant at the .005 level (one-tailed t-test). The 1973 sample was significantly more negative than the elite and regular 1943 samples, but significantly less negative than the 1943 A.W.O.L. sample, thus to some extent requiring a tempering of the suggestion made by Segal, Lynch, and Blair (1979) regarding the comparability of 1943 A.W.O.L.s and 1973 enlisted men. In fact, of all four samples the 1973 enlisted men are closest, on the average, to the midpoint of the scale, with the regular and elite World War II soldiers on the positive side of the midpoint, and the 1942 A.W.O.L. soldiers on the negative side.



## DISCUSSION

Three conclusions seem warranted by our analysis. First, while the 1973 data did not conform to the scalar structure Stouffer suggested in his research on World War II soldiers, neither do data on World War II soldiers, when criteria other than the coefficient of reproducibility are used to evaluate the scale. Indeed, the scalar qualities of the 1973 data were fairly similar to those derived from the 1943 elite sample, in terms of all three criteria presented.

Second, although our attitude items seem not to meet Guttman's definition of a unidimensional scale, the item analysis suggests important similarities in the way soldiers in World War II and in 1973 regarded their Army jobs. If the attitude constellation measured by our index suggests that the soldier of the 1970s perceives his service in terms of criteria that are equally applicable to jobs in the civilian labor force, then the junior enlisted man of 1943 is no different in this regard. Indeed, while enlisted men in the conscription-based U.S. Army may well have regarded their service as a duty and responsibility of citizenship, much as they might have regarded paying taxes, we have yet to see evidence that these soldiers ever saw their service as a higher calling, to be evaluated in terms of different criteria than are jobs in the civilian labor force. Indeed, in light of the massive changes that have taken place in the nature of military service, military organization, and definition of military organization in the United States, we find the stability of our job satisfaction measure over a thirty year period surprising. We know of no other formal organization in which the structure of employees attitudes toward the

organization has been shown to be this constant over a three decade period.

Third, our analysis, contrary to the picture painted by Segal, Lynch, and Blair (1979), shows a representative sample of enlisted men 1943 to be no more similar to 1943 A.W.O.L.s than to a regular sample of 1943 enlisted men. To be sure, the 1973 soldiers were more dissatisfied than the 1943 soldiers, but they were also more satisfied than the 1943 A.W.O.L.s. Perhaps equally important, our 1973 enlisted men score very close to the midpoint of the satisfaction scale, in contrast to other research showing modern soldiers consistently below the midpoint (e.g., Blair, Thompson, and Segal, 1979). While we would prefer to see a higher level of job satisfaction in the all-volunteer force, it may be that being a soldier in a peacetime Army simply isn't that satisfying a job. On the other hand, other research may have overstated the level of dissatisfaction of our enlisted personnel.



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Table 1. Statistical Analysis of Attitude Data

	<u>SAMPLE</u>			
	<u>1973</u>	<u>A.W.O.L.</u>	<u>REGULAR</u>	<u>ELITE</u>
<b>Panel A: Zero-Order Correlations Among Items</b>				
<u>Items</u>				
1x2	.08	-.03	.12	.16
1x3	.35	.20	.43	.42
1x4	.48	.33	.43	.23
1x5	.20	.21	.38	.34
1x6	.25	.20	.29	.16
1x7	.16	.07	.18	.15
2x3	.30	.26	.25	.20
2x4	.24	.22	.17	.12
2x5	.40	.36	.41	.52
2x6	.36	.28	.25	.18
2x7	.07	.12	.17	.18
3x4	.55	.54	.36	.37
3x5	.48	.41	.50	.44
3x6	.59	.55	.51	.41
3x7	.22	.21	.36	.37
4x5	.42	.48	.32	.27
4x6	.44	.47	.26	.22
4x7	.10	.21	.19	.17
5x6	.52	.38	.46	.33
5x7	.14	.13	.26	.26
6x7	.19	.18	.31	.20
<b>Panel B: Alpha Coefficients</b>				
All items	.34	.59	.59	.59
Item 7 deleted	.61	.58	.62	.57
<b>Panel C: Corrected Item-to-Total Score Correlations for Items 1-6</b>				
<u>Item</u>				
1	.19	.22	.50	.43
2	.45	.40	.36	.48
3	.66	.62	.67	.65
4	.40	.77	.45	.47
5	.73	.59	.72	.65
6	.78	.60	.55	.41
<b>Panel D: Scalogram Analysis Statistics</b>				
<u>Criterion</u>				
Reproducibil.	.91	.91	.88	.89
MMR	.88	.69	.72	.81
Improvement	.03	.22	.17	.08
<b>Panel E: Mean Index Values</b>				
Mean Value	2.57	2.77	2.35	2.03



APPENDIX I

Scalogram No. 1. Satisfaction with One's Army Job

Questions and Answer Categories

4. How do you feel about the importance of the work you are doing now as compared with other jobs you might be doing in the Army?
  - 1 ☐ It is as important as any other job I could do
  - 2 ☐ It is fairly important, but I could do more important work
  - 3 ☐ It hardly seems important at all
5. How interested are you in your Army job?
  - 1 ☐ Very much interested
  - 2 ☐ A little, but not much
  - 3 ☐ Not interested at all
6. How satisfied are you about being in your present Army job instead of some other Army job?
  - 1 ☐ Very satisfied
  - 2 ☐ Satisfied
  - 3 ☐ It does not make any difference to me
  - 4 ☐ Dissatisfied
  - 5 ☐ Very dissatisfied
7. Would you change to some other Army job if given a chance?
  - 1 ☐ Yes
  - 2 ☐ No
  - 3 ☐ Undecided
8. Do you feel that everything possible has been done to place you in the Army job where you best fit?
  - 1 ☐ Yes
  - 2 ☐ No
  - 3 ☐ Undecided
9. Do you consider your own present job or duty in the Army an important one in the war effort?
  - 1 ☐ Very important
  - 2 ☐ Pretty important
  - 3 ☐ Not so important
  - 4 ☐ Not important at all
  - 5 ☐ Undecided
10. On the whole, do you think the Army is giving you a chance to show what you can do?
  - 1 ☐ A very good chance
  - 2 ☐ A fairly good chance
  - 3 ☐ Not much of a chance
  - 4 ☐ No chance at all
  - 5 ☐ Undecided

11. Do you usually feel that what you are doing in the Army is worthwhile or not?

- 1 ☐ I usually feel that it is not worthwhile
- 2 ☐ I usually feel it is worthwhile
- 3 ☐ Undecided

12. Which of the following would you say best applies to your job?

- 1 ☐ Time always passes quickly
- 2 ☐ Time passes quickly most of the time
- 3 ☐ Enjoy working part of the time
- 4 ☐ Time drags most of the time
- 5 ☐ Time always drags

"No answers" are all coded 0.

SOURCE: S.A. Stouffer et al., Measurement and Prediction (Princeton: Princeton University Press, 1950), p. 125.



## APPENDIX II

### Survey Items Used in WW II and 1979

#### World War II Wording

1. Would you change to some other Army job if given a chance? (a)

2. Do you think a soldier with ability has a good chance for promotion in the Army? (b)

3. How interested are you in your Army job? (a,c)

4. How satisfied are you about being in your present Army job instead of some other Army job? (a,c)

5. On the whole, do you think the Army is giving you a chance to show you can do?

6. Do you usually feel that what you are doing in the Army is worthwhile or not? (b)

#### 1973 Wording

I would change to some other Army job if given a chance.

A soldier with ability has a good chance for promotion in the Army.

I am interested in my Army job.

I would rather be in my present Army job than in any other Army job.

On the whole, the Army gives me a chance to show what I can do.

I usually feel that what I am doing in the Army is worthwhile. (b)

#### Response Equivalences

Yes=Strongly agree/Agree  
Undecided=Undecided  
No=Disagree/Strongly disagree

A very good chance=Strongly agree  
A fairly good chance=Agree  
Undecided=Undecided  
Not much of a chance=Disagree  
No chance at all=Strongly disagree

Very much interested=Strongly agree  
A little but not much=Agree  
Undecided=Undecided  
Not interested at all=Disagree/  
strongly disagree

Very satisfied=Strongly agree  
Satisfied=Agree  
It makes no difference=Undecided  
Dissatisfied=Disagree  
Very dissatisfied=Strongly disagree

A very good chance=Strongly agree  
A fairly good chance=Agree  
Undecided=Undecided  
Not much of a chance=Disagree

I usually feel it is worthwhile=  
Strongly agree/agree  
Undecided=Undecided  
I usually feel it is not worthwhile=  
Disagree/Strongly disagree

World War II Wording

7. How about yourself-would you honestly say that you usually put all you have into your Army training and regular duties, or do you usually work just hard enough to get by?

1973 Wording

I usually work just hard enough to get by on my present Army job. (d)

Response Equivalences

I usually put all I have into it=  
Strongly agree/agree  
Undecided=Undecided  
I usually work just hard enough to  
get by=Disagree/Strongly disagree

- a. Some surveys referred to "assignment" rather than "job." We regarded this as not equivalent.
- b. Some surveys referred to "your company" rather than "the Army." We regarded this as equivalent.
- c. Some surveys referred to "your present Army assignment" rather than "your Army job." We regarded this as equivalent.
- d. Some surveys omitted the introduction "How about yourself." We regarded this as equivalent.